Amendments to the Specification

Please amend the paragraph beginning on page 5, line 27, as follows:

The inventors have ~~has~~ dedicated themselves on the research in order solve the above problems and accomplish the present invention based on the finding that if conductive paste ~~past~~ is used to provide a planar wiring to an electrode disposed on one of the surfaces of the piezoelectric vibrator and a connecting device (a connecting unit or a connector) is intervened to provide the planar wiring to an electrode disposed on the other surface of the piezoelectric vibrator, then it can ensure the electrical connection to be established even to the back surface while inhibiting the increase in profile, and this form of wiring can ensure the supply of electric power or an electric signal to the piezoelectric vibrator constituting the transducer with high reliability and thereby resolve the problem of fragility associated with a cable wiring.

Please amend the paragraph beginning on page 8, line 2, as follows:

The present invention also includes a substrate to be used in said device. This substrate may be used for an acoustic detecting device and have the following components and a top surface. The substrate comprises: (a) an acoustic transducer coupled with a bulk wave having a propagation axis crossing said top surface in the substrate; (b) a wiring for supplying this acoustic wave transducer with electric power, said wiring being printed on a back surface of said substrate; (c) a connecting device for connecting said acoustic wave transducer with said wiring; (d) a diffractive acoustic wave mode coupling structure formed in ~~the~~ proximity to said surface for converting acoustic energy of the bulk wave into a wave to be propagated along an axis parallel to said top surface; and (e) a means for detecting the converted acoustic wave energy corresponding to a location of a perturbation.

Please amend the paragraph beginning on page 10, line 19, as follows:

Said acoustic wave transducers 3, 4 comprise transmitting transducers 3a, 3b ~~4a~~ respectively attached to the back face of the substrate 1 in the X-axis and the Y-axis starting point zones (bottom corner portions along the X-axis and the Y-axis in this illustrative example) and a pair of receiving transducers 4a, 4b respectively attached to the back face of the substrate 1 in the X-axis and the Y-axis ending point zones (bottom corner portions along the X-axis and the Y-axis in this illustrative example). Each of the transmitting transducers 3a, 3b functions as a bulk wave generation means for propagating a bulk wave (either in a longitudinal wave mode or a transverse wave mode) in the crossing direction with respect to

the top surface (the front face) of the substrate serving as the propagation medium and each of the receiving transducers 4a, 4b functions as a bulk wave receiving means for receiving the bulk wave being propagated from the top surface (the front face) of the substrate 1 through the substrate in the crossing direction. That is, each of the acoustic wave transducers 3, 4 is coupled with such a bulk wave (a first wave) being propagated through said substrate 1 along the axis crossing the top surface of said substrate 1, in other words, the bulk wave having a propagation axis crossing said substrate 1.

Please amend the paragraph that begins on page 12, line 7, as follows:

Bulk waves (first waves) are emitted from the oscillating transducers 3a and 3b of said acoustic wave transducers 3 and 4 through the substrate 1 toward mode-converting sites (regions of perturbation or oscillation) in the top surface (the front face) of the substrate 1, and herein the bulk waves which have reached to the mode-converting sites are converted to acoustic waves (surface waves or plate waves), or specifically surface acoustic waves (second waves), with the aid of an X-axis and a Y-axis acoustic mode couplers (diffractive acoustic wave transducers) 9a and 9b disposed in said mode-converting site. This surface acoustic wave is in the mode of converted wave having high energy on the top surface of the substrate. That is, each of the acoustic mode couplers (the diffractive acoustic wave transducer) 9a and 9b functions as an acoustic wave generation means so as to couple said bulk wave (the first wave) with the surface wave (the second wave) being propagated in ~~the~~ proximity of the top surface of the substrate 1 along the axis parallel to the top surface of the substrate 1, and is capable of converting the mode of the acoustic wave from the bulk wave to the surface wave or vice versa. In this example, each of the acoustic mode couplers 9a and 9b comprises a diffractive acoustic wave mode coupler (or a grating transducer), namely a diffraction grating.

Please amend the paragraph beginning on page 18, line 4, as follows:

The <u>detailed</u> ~~detail~~ description of the substrate material and the configuration or the shape of the propagation medium, the acoustic wave transducer, the acoustic wave mode coupler, the reflecting means, the means for detecting the perturbation and others, each having been mentioned above, can be seen in the Japanese patent laid-open publication No. Hei 10-240443. For example, an ultrasonic surface elastic wave such as a Rayleigh wave, a Lamb wave, a Love wave, a transverse wave of zero order with horizontally polarized spectral (ZOHPS) and a transverse wave of high order with horizontally polarized spectral (HOHPS) may be referred to as an example of the acoustic wave.

Please amend the paragraph beginning on page 21, line 18, as follows:

One end of copper plate (a connecting device having a bent shape) having a step with a height corresponding to the profile of said piezoelectric vibrator is bonded to one of the electrodes 6b of the plate-like piezoelectric vibrator having the electrodes formed on both surfaces thereof by using a heat-hardening adhesive. Further, on the opposite side to the grating transducer in the obtained glass substrate, the other end of said copper plate is bonded to the planar wiring section 7b, while the other electrode 6a disposed on the other surface of the piezoelectric vibrator is bonded to the planar ~~planer~~ wiring section 7a thus to fabricate a touch panel having a structure shown in Fig. 3. Then, the wiring section was connected with a controller (manufactured by Touch Panel Systems Co., Ltd) of the touch panel by using a heat sealing cable. Fig. 4 shows a received waveform from the touch panel which has been fabricated in the above manner. It is obvious from the graph that a coordinate signal was converted into an envelope signal. It has been ascertained that the panel has recognized a touching with a finger.

Please amend the paragraph beginning on page 22, line 13, as follows:

The polypropylene film was tightly contacted to a back surface of the glass substrate and a film having a predetermined pattern printed thereon was further loaded thereon, and then the printed pattern together with the glass substrate was baked at the baking temperature in a range of 485°C to 490°C with the top keeping period of 10 minutes, and thus the glass substrate with a planar ~~planer~~ wiring was obtained. After baking, it was observed that the wiring by way of the conductive paste was secured to the glass without no residual film remained thereon. It is to be noticed that the height of the grating of the grating transducer is 40μm and the reflective array element is angled at 45° with respect to the X-axis and the Y-axis.